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Measurement tables and charts

Washington

1921

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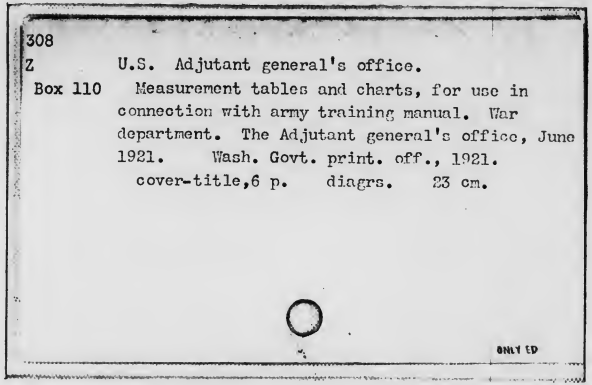
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MEASUREMENT TABLES AND CHARTS

For use in connection with
ARMY TRAINING MANUAL

308
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Box 110

WAR DEPARTMENT
THE ADJUTANT GENERAL'S OFFICE
June, 1921

WASHINGTON
GOVERNMENT PRINTING OFFICE
1921

WAR DEPARTMENT,
WASHINGTON, *June 13, 1921.*

These measurement tables and charts are published for the convenience of instructors and students in post schools and are designed for use in connection with the Army Training Manuals.
[353.9, A. G. O.]

BY ORDER OF THE SECRETARY OF WAR:

PEYTON C. MARCH,
Major General, Chief of Staff.

OFFICIAL:

P. C. HARRIS,
The Adjutant General.

MEASUREMENT TABLES

LENGTH

12 inches (in.)	= 1 foot (ft.)
3 feet	= 1 yard (yd.)
16½ feet	= 1 rod (rd.)
320 rd. (5,280 ft.)	= 1 mile (mi.)
A hand	= 4 in.
A fathom	= 6 ft.
A knot	= 1.15 mi.

SURFACE

144 square in.	= 1 square ft.
9 sq. ft.	= 1 sq. yd.
30¼ sq. yd.	= 1 sq. rd.
160 sq. rd.	= 1 acre
640 acres	= 1 sq. mi.
A section	= 1 sq. mi.
A square	= 100 sq. ft. (roofing)

An acre in the form of a square is about 70 paces, or 210 ft., on each side.

VOLUME

1,728 cubic in.	= 1 cubic ft.
27 cu. ft.	= 1 cu. yd.
231 cu. in.	= 1 gallon (gal.)
2,150.4 cu. in.	= 1 bushel (bu.)
24¾ cu. ft.	= 1 perch (stone)
1 cu. yd. (approx.)	= 1 load of earth.

A cord is 128 cu. ft. It is usually a pile of wood 8 ft. long, 4 ft. wide, and 4 ft. high.

AVOIRDUPOIS WEIGHT

16 ounces (oz.)	= 1 pound (lb.)
2,000 lb.	= 1 ton (T.)
2,240 lb.	= 1 long T.

Coal is sold at the mine by the long ton. It is retailed by the ton. In some localities it is sold by the bushel. Eighty pounds of coal is considered a bushel. There are 25 bushels in a ton.

Gold and silver are weighed by troy weight. Diamonds are weighed in carats.

DRY MEASURE

2 pints (pt.) = 1 quart (qt.)
8 qts. = 1 peck (pk.)
4 pks. = 1 bushel (bu.)
A bu. = 2,150.4 cu. in., or about 1¼ cu. ft.

A barrel of apples or potatoes usually contains 2¾ bu.

LIQUID MEASURE

2 pts. = 1 qt.
4 qts. = 1 gallon (gal.)
A barrel (bbl.) = 31½ gal.
1 gal. = 231 cu. in.

A gal. of water weighs about 8½ lb. A cu. ft. of water weighs about 62½ lb.

The most commonly used barrel contains 50 gal.

"A pint's a pound the world around" is a rough estimate for the weight of ordinary liquids.

TIME

Thirty days hath September,
April, June, and November.
All the rest have thirty-one,
Except the second month alone
Which has but twenty-eight, in fine,
Till leap year gives it twenty-nine.

MONEY

10 mills = 1 cent (¢)
10 cents = 1 dime
10 dimes = 1 dollar ($)

COUNTING

12 things = 1 dozen (doz.)
12 dozen = 1 gross (gro.)
20 things = 1 score

PAPER

24 sheets = 1 quire
480 sheets = 1 ream
A standard sheet is 17″ × 22.″

NORMAL VALUES OF FOREIGN COINS IN UNITED STATES MONEY

Country	Coin	Value in U. S. money
Canada	Dollar	1.000
France	Franc	.193
Germany	Mark	.238
Gt. Britain	Pound sterling	4.866
Italy	Lira	.193
Japan	Yen	.498
Mexico	Peso	.498
Russia	Ruble	.515

METRIC UNITS AND ENGLISH EQUIVALENTS

Length:
Meter = 39.37 in., or 3.28 ft., or 1.1 yd. (approx.).
Millimeter = .039 in.
Centimeter = .394 in., or about 2/5 in.
Kilometer = .62 mi., or about ⅝ mi.
(A Russian verst is 3,500 feet, or a little more than ⅝ mi.)

Volume:
Liter = 1.06 liquid qt.; 0.91 dry qt.

Weight:
Kilogram = 2.2 lbs.

STANDARD MARKET WEIGHTS OF PRODUCE

	Lbs.		Lbs.
Wheat (per bu.)	60	Oats (per bu.)	32
Corn, in the ear (per bu.)	70	White potatoes (per bu.)	60
Corn, shelled (per bu.)	56	Sweet potatoes (per bu.)	55
Rye (per bu.)	56	Flour (per bbl.)	196
Barley (per bu.)	48		

LUMBER

Lumber is measured by the board foot. The standard board foot is a piece of lumber *a foot long, a foot wide,* and *an inch thick.*

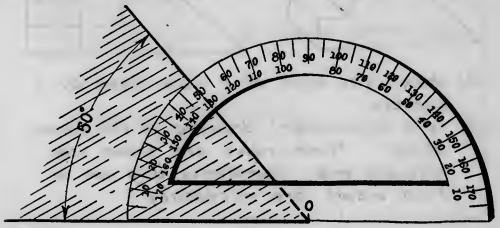
To find the number of board feet in a piece of lumber multiply the *length in feet,* by the *width in feet,* by the *thickness in inches.*

Lumber is sold by the thousand (M) board feet. A studding 2″ × 4″ × 12′ contains 8 board feet. At $50 per M it is worth $0.40.

CIRCULAR MEASURE

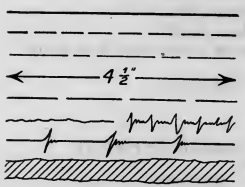
60 seconds (″) = 1 minute (′)
60 minutes = 1 degree (°)
360 degrees = 1 circle
90 degrees = 1 right angle

Angles are measured with a *protractor.* The protractor is placed with its center exactly on the point of the angle. It is turned about this point until its base line falls along one side of the angle. The scale is read at the point where the other side of the angle crosses it. This is the measure of the angle in degrees. (See figure below.)

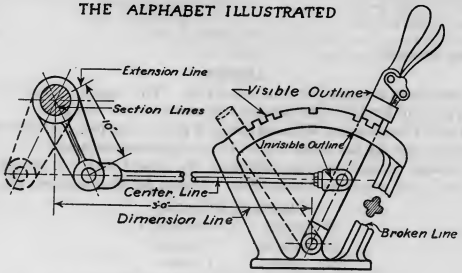


READING A DRAWING

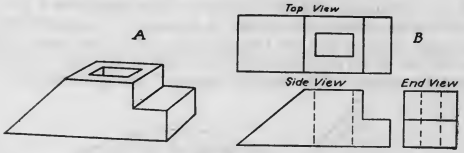
THE ALPHABET OF LINES



THE ALPHABET ILLUSTRATED



A BLOCK AND ITS THREE VIEWS



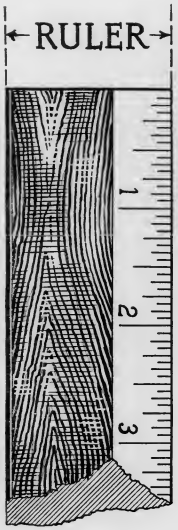
(A) shows the kind of a view taken by a camera.

(B) is a mechanical drawing of the same object. Three views are shown - top side, and end. Sometimes only one or two views are necessary.

THE MOST COMMONLY USED

– DIVISIONS OF AN INCH –

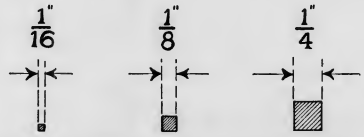
AND THEIR RELATION TO THE RULER



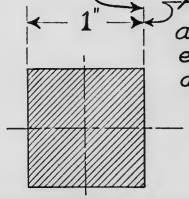
.0625	.125	.1875	.25	.3125	.375	.4375	.5	.5625	.625	.6875	.75	.8125	.875	.9375	1.
1/16	2/16=1/8	3/16	4/16=1/4	5/16	6/16=3/8	7/16	8/16=1/2	9/16	10/16=5/8	11/16	12/16=3/4	13/16	14/16=7/8	15/16	16/16=1
15/16	7/8	13/16	3/4	11/16	5/8	9/16	1/2	7/16	3/8	5/16	1/4	3/16	1/8	1/16	0
.9375	.875	.8125	.75	.6875	.625	.5625	.5	.4375	.375	.3125	.25	.1875	.125	.0625	0

DECIMALS / FRACTIONS / FRACTIONS / DECIMALS

The arbitrary mark for 1 inch is 1"
The arbitrary mark for 1 foot is 1'
For example–3' 11" means 3 feet 11 inches



Extension line



Arrows here indicated are for the convenience of reading dimensions.

℄ *Means center line*

59011°—21. (To face p. 6)

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END OF
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